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NOTES ON SOME WEST AMERICAN PECTENS.

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Since publishing my notes on West Coast Pectens in 1898, in the Transactions of the Wagner Institute, a very large amount of material has accumulated which enables me to revise and correct the nomenclature then adopted and the views of relationship of the different forms treated. The complete work is reserved for future publication, some notes however having an immediate interest.

In 1839 Anton described under the name of *Pecten excavatus* a species from China afterward named by Sowerby *P. sinensis*. This is a good species. In 1846 the plate of the Mollusca of the "Voyage of the Venus" by Valenciennes were issued and contain a *Pecten* named *P. excavatus*. Whether the name is a mere coincidence, or the species was supposed to be the same as Anton's, cannot be known, as the text was never published. At any rate the shell figured was identical with that commonly known as *P. dentatus* G. B. Sowerby, 1842. But there is a *P. dentatus* described by J. Sowerby in 1829, so that the name of 1842 cannot be used. For this common species of the Gulf of California I propose the name of *Pecten (Euvola) cataractes*.

The group of Pectens including *P. islandicus* Müller, *P. rubidus* Hinds (= *hindsii* Cpr.), *P. hastatus* Sowerby, *P. hericius* Gould, etc. has always puzzled writers, all of whom, including myself, have been misled by worn specimens or insufficient material.

Possessing the types of Gould, Carpenter, and Arnold, and a full series of the recent shells in good condition, I have reached the following conclusions.

P. hastatus Sowerby, is a good species of small size and limited distribution in the California region.

P. hericius Gould is distinct, and distributed from Port Althorp, Alaska to San Diego, Cal. The variety *albidus* Dall, if not a distinct species, is probably an extreme form of *hericius*.

P. islandicus Müller, extends from the Arctic south in constantly deeper water to the Strait of Fuca. Varieties of this were supposed to be *P. rubidus* Hinds, by Middendorff, who did not know the true *rubidus*, and his name for one variety, *beringiana*, takes precedence of my variety *strategus*, which is identical.

P. hindsii Carpenter (*rubidus* Hinds, not Martyn) has a very wide distribution from Bering Sea to Cape St. Lucas. It is a good species, the typical form of which has the major ribs on the right valve flattish and smooth. In my variety *navarchus* they are rounded and densely imbricate. The two can be separated in the dark.

Pecten (Plagiocentrum) circularis Sowerby, has had a confused nomenclatorial career. It was first named *tumidus* by Sowerby in 1835, but there is an older *tumidus* of Turton, 1822. Sowerby then replaced the name by *ventricosus* under which the species is commonly catalogued. But he had also described in 1835 a *P. circularis* from Guaymas, Mexico, which as figured appears to be merely a color variety of *tumidus*. There is a *P. circularis* of Goldfuss, but it appears to have been published in 1836. The species will then (as indicated by Arnold) take the name *circularis*. It is closely analogous to the Atlantic *P. dislocatus* Say, and its variety *æquisulcatus* bears the same relation to the type that the Atlantic *irradians* does to *dislocatus* (= *gibbus* Lam.)

Pecten (Patinopecten) caurinus Gould. This species can at once be distinguished from its analogue *P. yessoënsis* Jay, by the fact that its minor surface sculpture is purely concentric, while that of the Japanese shell is reticulate when in perfect condition.

P. digitatus Hinds, is probably only a young specimen of *P. (Nodipecten) subnodosus* Sowerby.

A NEW SONORELLA FROM THE GRAND CANYON, ARIZONA.

BY JUNIUS HENDERSON.

Among some shells recently received from Mr. Ellsworth Bethel, of East Denver High School, were four dead specimens of *Sonorella*